REMARKS/ARGUMENTS

Applicant responds herein to the Office Action dated March 6, 2006.

Claims 1-3, 7-10, 19, 21 and 22 stand finally rejected obvious over Okuda, et. al., (US2002/0035762), in view of Aoki (5,635,053) as "evidenced" by Verhaverbeke (5,972,123), Tomita (6,431,185) and Skee (6,465,403). Reconsideration is requested.

It has been previously submitted that according to the inventions in claims 1-6, 19, 20, 25 and 26, an alkaline solution of ordinary temperature is used together with an acid solution of ordinary temperature. Since the alkaline solution and the acid solution are not of high temperature, the solution quantity for etching a substrate surface is reduced, which prevents damage to the substrate surface. In addition, the inventions according to the aforementioned claims involve injecting droplets or applying megasonic vibrations. The latter feature causes the particles on the substrate surface to be more efficiently removed by the physical action provided by the droplets or the megasonic vibrations.

The aforementioned features of the claimed inventions are inter-dependent. That is, the physical impact being applied to substrate through the injection of the droplets or the application of the megasonic vibrations compensates for the reduction in particle removing effect due to use of liquid at ordinary temperature. As such, the use of the liquid at ordinary temperature and the injection of droplets of the application of megasonic vibrations are physically interrelated with one another to produce the overall invention that is defined in these claims.

It appears to applicant, that the Office Action does not even assert that the disclosure in the prior art being cited, suggests or discloses, in and of itself, the invention. Rather, as set forth at page 3 of the Office Action, and after noting specific distinctions of the claimed invention over the prior art, it is asserted:

> "However, same are known to be result-effective variable and commonly determined by routine experiment. The process of conducting routine experimentations so as to produce an expected result is obvious to one of ordinary skill in the art. In the absence of showing criticality or new, unexpected results, a person having ordinary skill in the art would have found it obvious to modify the prior art by performing routine experiments (by using ordinary temperature and adjusting concentration of alkaline solution for desired pH value) to obtain optimal results with a reasonable expectation of success." (emphasis added).

The Office Action goes on to say that:

> "Verhaverbeke discloses that the exposure time, temperature, and concentration may vary in wet etching or cleaning, which clearly shows that temperature is a recognized result-effective variable in the art of wet cleaning. Tomita and Skee show the pH value is a recognized result-effective variable in the art of wet cleaning."

In other words, according to the present Office Action, temperature or pH value is presumed to be "obvious". Applicant's undersigned representative respectfully does not understand the Patent Law to have such a *per se* rule. To the contrary, the oft cited rejection of claims on the basis that the specific combination would have been "obvious to try", has long been held not to constitute obviousness. The seminal case is *In re O'Farrell*, 853 F.2d 894, 903, 7 U.S.P.Q.2d 1673, 1680-81 (Fed. Cir. 1988), see the attachment hereto. Most recently, the Federal Circuit has discussed the "obvious to try" rule in the course of its decision in *Medichem v. Rolabo*, 77 U.S.P.Q.2d 1865 (Fed. Cir. 2006).

In the aforementioned *In re O'Farrell* decision, it has been explained that references do not make any particular procedures "obvious to try"unless there was an explicit teaching in these references that there would be a reasonable expectation of success to pursue a particular course. It is simply incorrect to annunciate a *per se* rule that specifying a temperature or pH levels can never have an effect on patentability.

In the instant case, it is not necessary to specifically provide evidence in the form of testimony of any given individual, for example, by means of a Rule 132 Affidavit. The specification itself teaches that the use of the mentioned solutions in combination at an ordinary temperature would normally be counterintuitive to one of ordinary skill in the art. It is through the combination of that feature, together with the use of the droplets or the megasonic vibrations, that applicant has advantageously discovered that the overall cleaning effect is improved upon the use of the two parameters.

It is not "obvious to try" each and every temperature "under the sun" without regard to the context of the particular invention. There is no teaching or suggestion in the prior art that for the specific cleaning methodology that is described in the primary reference, it would have been "obvious to try" those solutions being used at room temperature. To the contrary, the prior art leads one of ordinary skill in the art away from that assumption.

With the foregoing in mind, it is submitted that the inventions in claims 1-6, 19, 20, 25 and 26 are not rendered obvious by the cited prior art because Okuda (US2002/0035762), Aoki (5,635,053), Chang (6,423,147), Hall (4,326,553) and Bran (6,039,059) do not disclose that an alkaline solution and an acid solution be used at ordinary temperature, as discussed in the previous Response. Further, Tomita (6,431,185) and Skee (6,465,403) also do not disclose that an alkaline solution and an acid solution are to be used at ordinary temperature.

Verhaverbeke (5,972,123) discloses a wet processing method of a semiconductor wafer in which temperature of a solution is variable. However, Verhaverbeke does not disclose setting a solution at an ordinary temperature. In a cleaning process of a substrate, conventional wisdom suggests to persons skilled in the art to use a solution of high temperature to remove particles efficiently. Thus, it is not obvious for persons skilled in the art to use an alkaline solution of ordinary (room) temperature and an acid solution of ordinary temperature in a cleaning process of a substrate.

Specifically, when a solution is injected from a nozzle, temperature of droplets is not easily controlled due to the influence of gas in the periphery. For example, it is difficult to maintain a solution injected from a nozzle at high temperature. However, since temperature of a solution in the present invention is set at ordinary temperature, it is less variable even when a solution is injected from a nozzle. As a result, it is possible to perform the processing in a stable condition.

The above description makes it clear that, in fact, it would not have been obvious to try an ordinary temperature, based on the teachings of the prior art. Therefore, the inventions according to the mentioned claims have an overall structure which performs the processing at an ordinary temperature but, at the same time, adds a physical impacting to the substrate which compensates for the reduction of temperature, resulting in an overall unobvious and, therefore, patentable, invention. This demonstrates the non-obviousness and the criticality of the combination of elements to achieve the ends of the present invention.

Relative to claims 7, 14, 21-24, 27 and 28, it is noted that these include the first step of applying an alkaline solution to the surface of a substrate, a second step of supplying an acid solution to the surface of the substrate subsequent to the first step, and a third step of supplying the alkaline solution to the surface of the substrate after the second step.

This is not shown in the prior art. Okuda (US2002/0035762), Aoki (5,635,053), Chang (6,423,147), Hall (4,326,553) and Bran (6,039,059) do not disclose supplying an alkaline solution, an acid solution and the alkaline solution in this order to the surface of the substrate. Further, Verhaverbeke (5,972,123), Tomita (6,431,185) and Skee (6,465,403) also do not disclose supplying an alkaline solution, an acid solution and the alkaline solution in this order to the surface of the substrate.

The present invention attains high effectiveness of removing particles since an alkaline solution, an acid solution and the alkaline solution are supplied in this order to the surface of the substrate. Particle removing effect is shown in Fig. 29. The present invention further attains the significant effect of shortening the rinsing process time by supplying alkaline solution for supplying acid solution, as well as improving the cleaning effect. This effect is different from the effect obtained from the first step and the second step. Thus, the claimed invention is not anticipated or rendered obvious by the cited reference as deemed by one of ordinary skill in the art.

Accordingly, supplying an alkaline solution, an acid solution and the alkaline solution in this order is not just repeating the rinsing process. Therefore, the inventions according to claims 7, 14 and 21-24 are not rendered obvious to a person having ordinary skill in the art. The foregoing remarks are similarly applicable to newly presented claims 25-28.

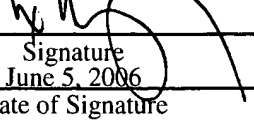
It is believed and respectfully submitted that foregoing remarks are fully responsive to the Office Action of record and that the claims of record have been established to merit allowance.

Accordingly, the Examiner is respectfully requested to reconsider the application, allow the claims as amended and pass this case to issue.

I hereby certify that this correspondence is being deposited with the United States Postal Service with sufficient postage as First Class Mail in an envelope addressed to: Mail Stop AF, Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313-1450, on June 5, 2006

Max Moskowitz

Name of applicant, assignee or Registered Representative

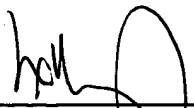


Signature

June 5, 2006

Date of Signature

Respectfully submitted,



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n any patentability determination. *See* *In re Brown* , 329 F.2d 1006, 141 USPQ 245 (CCPA 1964) (reversing rejection for lack of an enabling method of making the claimed compound). There must, however, still be prior art that suggests the claimed compound in order for a *prima facie* case of obviousness to be made out; as we have already indicated, that prior art was lacking here with respect to claims 5 and 7. Thus, even if, as the examiner stated, the existence of general cloning techniques, coupled with knowledge of a protein's structure, might have provided motivation to prepare *a* cDNA or made it obvious to prepare *a* cDNA, that does not necessarily make obvious a particular claimed cDNA. "Obvious to try" has long been held not to constitute obviousness. *In re O'Farrell* , 853 F.2d 894, 903, 7 USPQ2d 1673, 1680-81 (Fed. Cir. 1988). A general incentive does not make obvious a particular result, nor does the existence of techniques by which those efforts can be carried out. Thus, Maniatis's teachings, even in combination with Bohlen, fail to suggest the claimed invention.

